

IV. B. 21. Noise Quality

- a) Background. The traditional definition of noise is “unwanted sound”. There are two types of permanent noises which are potentially associated with Rural Development funded activities: (1) occupational noise created by extremely loud machinery and (2) community noise created by external sources such as highways, railroads, and airports.

The best solution for mitigating potential noise impacts is to locate noise sensitive projects (primarily residential projects) where they will not be exposed to high noise levels. There is a fairly non-technical method for evaluating the severity of such potential noise problems, use of the U.S. Department of Housing and Urban Development’s “*Noise Assessment Guidelines*” which employs a quantitative approach to assessing the noise hazard which can then be used to compare results against target noise level goals. These guidelines use a recommended day/night noise level or DNL system which is a weighted average measured in decibels, thus reflecting a more realistic assessment of the situation over a 24-hour period than just peak noise readings. The State Environmental Coordinator may be consulted in regards to the use of the “*Noise Assessment Guidelines*”.



New library construction:
a sound investment

- b) Governing Regulations.
- (1) Federal.
 - (a) Subpart B on Noise Abatement and Control to Part 51 of Title 24, Code of Federal Regulations.
 - (b) Executive Order 11514, Protection and Enhancement of Environmental Quality.
 - (c) Title 7, Part 1b and 1c, Code of Federal Regulations, U.S. Department of Agriculture’s National Environmental Policy Act.

(d) National Environmental Policy Act, 42 U.S.C. 4321.

- c) Policy. When evaluating prospective sites for Rural Development programs, potential noise problems are prominent among the issues that must be examined. Future projections of increased noise levels due to anticipated increases in noise source activity levels should also be taken into consideration.

The noise analysis/abatement methodology, “U.S. Department of Housing and Urban Development’s *Noise Assessment Guidelines*”, should be employed with respect to agency-funded housing projects and other projects with special noise sensitivity. This method studies three major noise sources: airports, railway systems, and vehicular transportation systems and introduces vibration impacts as an additional component to be considered.

Maximum recommended noise thresholds for noise have been developed in unison by several federal agencies, including the U.S. Department of Housing and Urban Development, U.S. Department of Transportation, and U.S. Department of Defense, for various potential projects other than housing developments. They should be adhered to for Rural Development funded activities.

Normally a noise assessment should be initiated anytime Rural Development proposes to fund a housing or other noise-sensitive project within the following ranges of key noise sources:

Airports: within 15 miles of the site(s)



Railroad lines: within 3,000 feet of the site(s)



Highways and major roadways: within 1,000 feet of the site(s)



Related and of note, buildings sited or to be sited closer than 100 feet of a railroad line are often subject to excessive vibration transmitted through the ground and construction at such sites **is not recommended**.

d) Classification.

The recommended day/night noise level or DNL (weighted average measured in decibels) applicable to following classifications varies depending on the specific nature of the intended building occupancy:

- (1) Acceptable (normally acceptable without applying mitigation measures).
- (2) Normally Unacceptable (occasionally acceptable if mitigation measures are applied).
- (3) Unacceptable (not normally recommended).



Landscaped sound barrier wall

e) Agency Jurisdiction:

Noise evaluations are a factor to be considered when performing National Environmental Policy Act environmental impact analyses in advance of funding federal projects. Policies are set by individual agencies and are, thus, self-policed by those agencies. Rural Development is no exception.

Following are recommended contacts for gathering noise data with respect to various noise sources which might impact Rural Development funded activities:

- (1) Airport noise: Contact the relevant local Airport Operations Center(s), Federal Aviation Administration Control Tower, or Military Operations Center within the area of anticipated environmental impact.
- (2) Railroad noise: Contact the Engineering Department of the relevant railway system within the area of anticipated environmental impact.
- (3) Vehicular noise: Contact the Traffic Count Section of the Colorado State Highway Department with regard to the relevant noise source arterial(s).

Annual Average Daily Traffic volumes (AADT) and hourly counts for a specific segment of highway may be directly accessed at the following Colorado Department of Transportation web-site:



<http://www.dot.state.co.us/TransData/traffic/>

Contact and provide the relevant information listed above to the Colorado State Environmental Coordinator for further accomplishment of the noise assessment.

- f) Location of Resource. Noise sources which could compromise the function of Rural Development funded activities vary from location to location and should be studied in aggregate on a case-by-case basis.

Noise assessment publications are available from the Rural Development Colorado State Office through the State Environmental Coordinator.

- g) Comparative Noise Levels. Typical Decibel (dBA) Values Encountered in Daily Life and Industry:

Rustling leaves:	20
Room in a quiet dwelling at midnight:	32
Soft whispers at 5 feet:	34
Men's clothing department of large store:	53
Window air conditioner:	55
Conversational speech:	60
Household department of large store:	62
Busy restaurant:	65
Typing pool (9 typewriters in use):	65
Vacuum cleaner in private residence (at 10 feet):	69
Ringling alarm clock (at 2 feet):	80
Loudly reproduced orchestral music in large room:	82

(Beginning of hearing damage if prolonged exposure over 85)

Printing press plant:	86
Heavy city traffic:	92
Heavy diesel-propelled vehicle (about 25 feet away):	92
Air grinder:	95
Cut-off saw:	97
Home lawn mower:	98
Turbine condenser:	98
150 cubic foot air compressor:	100
Banging of steel plate:	104
Air hammer:	107
Jet airliner (500 feet overhead):	115

- h) Other References.

- 1) U.S. Department of Housing and Urban Development: "Noise Abatement Regulations"



(Full text web-site)

<http://www.nchfa.state.nc.us/lib/html/rental/Tax%20credit%202000/Appendix%20P.htm>